



3 73953

1 TITLE
 Rotational Control Apparatus
ABSTRACT OF THE DISCLOSURE

Rotational control apparatus in the ~~preferred~~ forms
 5 of fan clutches (A, A') are shown including an eddy current
 drive (224). Specifically, the eddy current drive (224)
 includes a plurality of permanent magnets (226) mounted
 circumferentially spaced and with alternating polarity by
 a holder (228) to the input or output of the clutch (A, A')
 10 and a magnetically conductive ring (242) mounted to the
 other of the input or output of the clutch (A, A'). Thus,
 the output portion and the fan blades mounted thereto are
 driven at engine speeds when the clutch (A, A') is air
 actuated and are driven at a rotational speed less than
 15 engine speed by the eddy current drive (224) when the
 clutch (A, A') is not air actuated and without separate
 controls for the eddy current drive (224). ~~In preferred~~
~~forms~~ ^A a housing (62) comprises the output portion of the
 clutch (A) which is rotatably mounted by a bearing (58)
 20 to the hub portion (24) of a friction disc (28) which
 comprises the input portion of the clutch (A). In other
~~preferred~~ forms, the output portion of the clutch (A')
 is in the form of a hub (20') rotatably mounted on a
 stationary shaft (24') and the input portion is in the
 25 form of a sheave (50') rotatable relative to the hub (20')
 and the shaft (24'). Additionally, the hub (20') can be
 braked by rotatably relating the hub (20') to the shaft
 (24'). In one of the ~~preferred~~ ^{form} forms, the friction ring
 (252) includes peripheral gear teeth (256) in slideable
 30 gearing relation with gear teeth (250) formed in the
 housing (62) and is formed of fiber brake material to act
 as a dampener between the friction disc (28) and the
 housing (62) to absorb torsional vibration.

RHB
12/6/96RHB
12/6/96
RHB
12/6/96RHB
12/6/96RHB
12/6/96